POSTER PITCHES

Voting for Poster

Sub-headline to strengthen the headline above

Received voting slip when picking up badge and bag.

Deposit in box before the end of the last session tomorrow (5 pm).

Kindle Scribe

Neuwave-12 Poster Voting Slip

Please indicate your top 3 posters with 1, 2, 3 in the box

Poster Number	Title	Choice
P1	Scintillators for Time of Flight Event Mode Neutron Imaging	
P2	Understanding and modelling phase-contrast neutron energy resolved imaging	
P3	Correlative, Longitudinal Imaging: Time-of-Flight Neutron Radiography and X-ray	

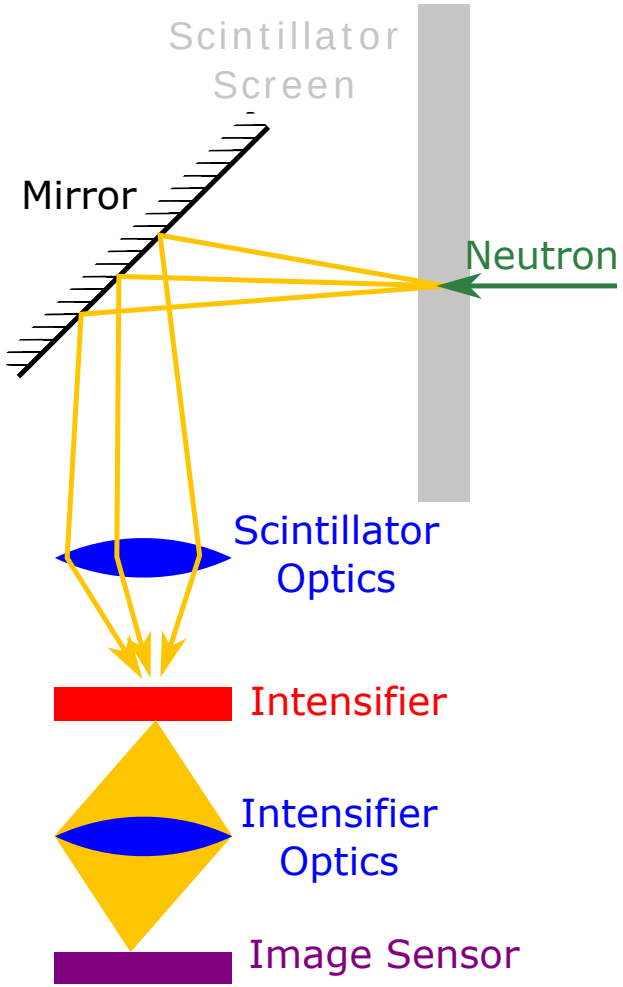
P1: Scintillators for Time of Flight Event Mode Neutron Imaging

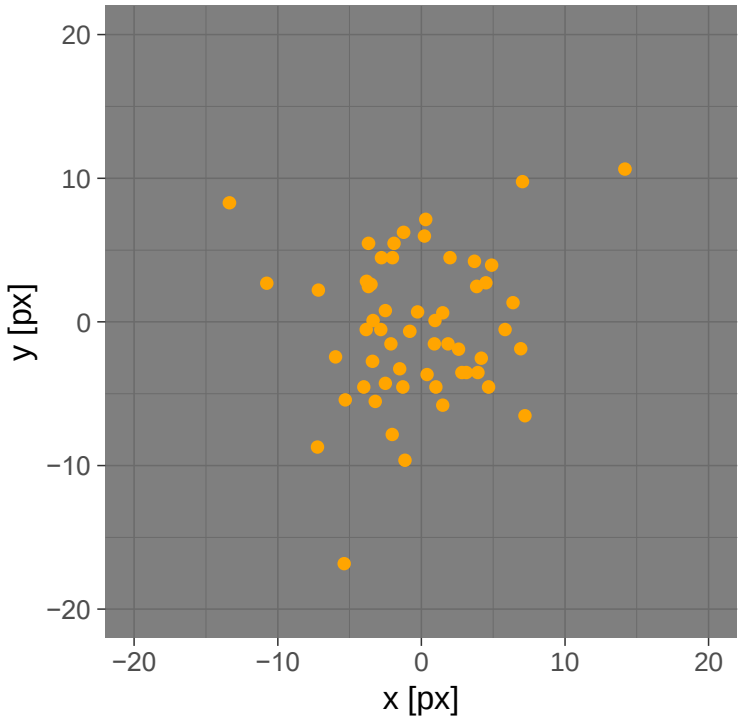
Alexander Wolfertzr[a], Adrian Losko[a], Michael Schultz[a]

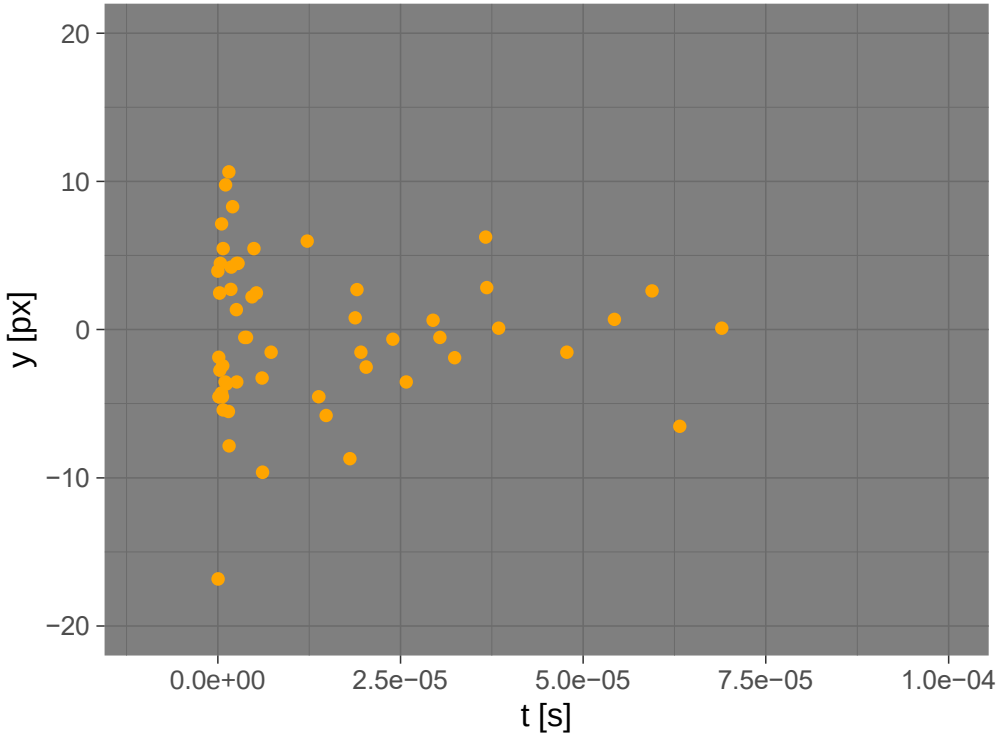
[a]Heinz Maier-Leibnitz Zentrum (MLZ), Technische Universität München, Garching, Germany

alexander.wolferz@frm2.tum.de

Event-Mode Imaging Detectors to Discover and Utilize Scintillator Behavior







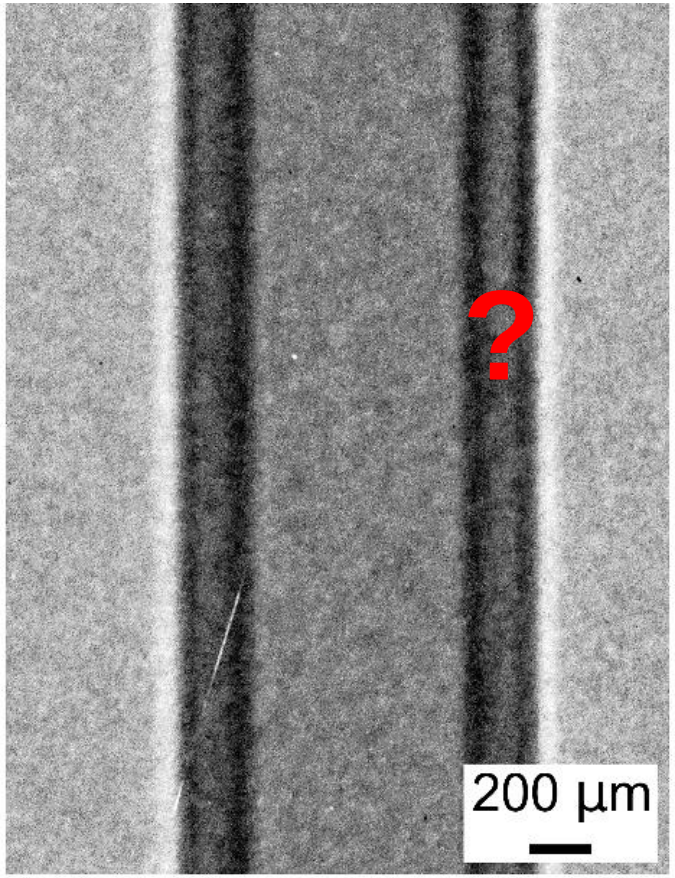
P2: Understanding and modelling phase-contrast neutron energy resolved imaging

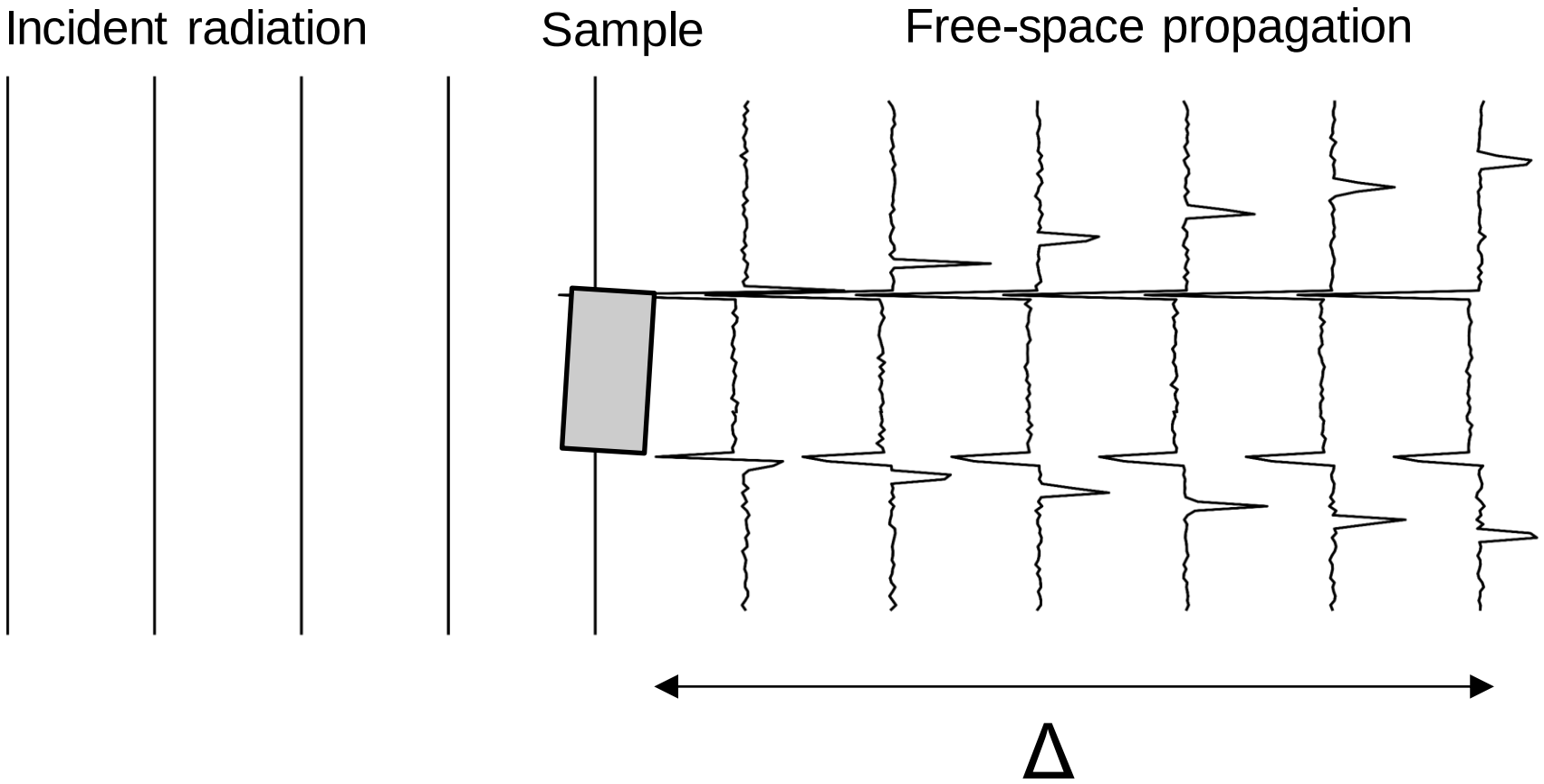
E. B. Naver[a], M. Østergaard[b], D. Battaglia[a], M. Bertelsen[c], P. Willendrup[c,d], P. Trtik[e], O. Yetik[e], M. Strobl[e], S. Schmidt[c], H. Birkedal[b], L. Theil Kuhn[a]

[a]DTU Energy, Lyngby, Denmark, [b]Dep. of Chemistry Aarhus University, Aarhus, Denmark, [c]ESS, Lund, Sweden, [d]DTU Physics, Lyngby, Denmark, [e]LNS Paul Scherrer Institut, Villigen, Switzerland.

ebna@dtu.dk

Understanding and modelling phase contrast neutron energy-resolved imaging





E. B. Naver et al. arXiv 2405.14510, 2024.

P3: Correlative, Longitudinal Imaging: Time-of-Flight Neutron Radiography and X-ray Tomography

Leslie G. Butler[a], Markus Bleuel[b], Kyungmin Ham[a], Gerald Schneider[a], Ted Cremer[b]

[a]Louisiana State University, Baton Rouge, LA USA, [b]Adelphi Technology Inc, Redwood city, CA USA

lbutler@lsu.edu

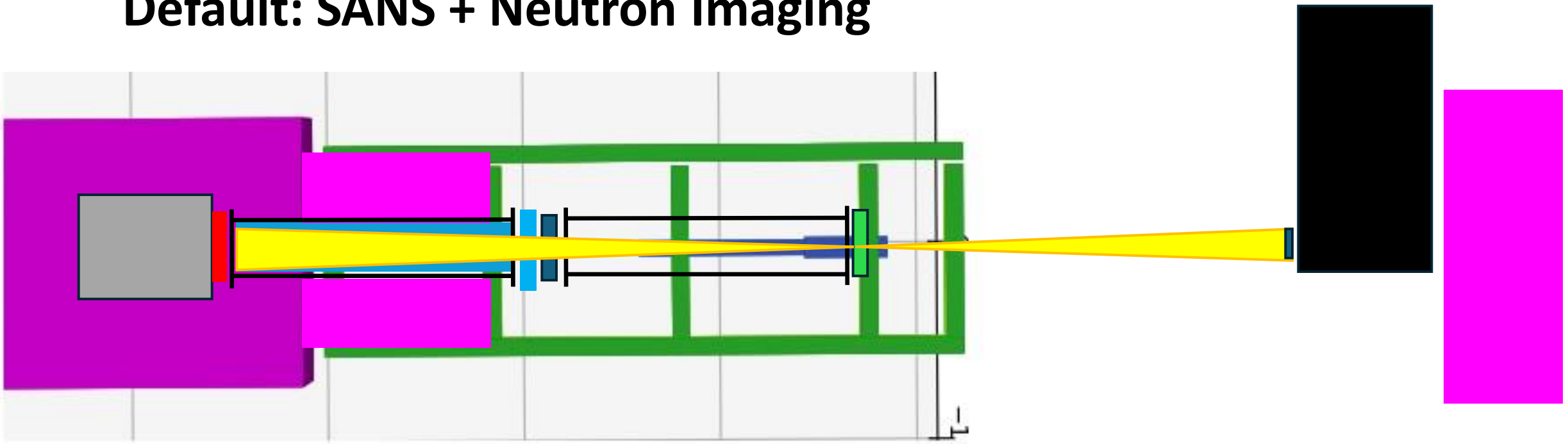
P4: Imaging Results at Adelphi Technology, Inc., and LSU

Jay Theodore (Ted) Cremer, Jr.[a], *Markus Bleuel*[a], *Charles Gary*[a], *Melvin Piestrup*[a], *David Williams*[a], *Craig Brown*[a], *Randall Urdahl*[a], *Eugene Guan*[a], *Ben Parkin*[a], *Les Butler*[b], *Gerald Schneider*[b]

[a]*Adelphi Technology, Inc., Redwood City, CA, USA,* [b]*Louisiana State University (LSU), Department of Chemistry, Baton Rouge, Louisiana, USA*

ted@adelphitech.com

Default: SANS + Neutron Imaging



SANS
Sample

Imaging
Sample

Current Setup at Pennington Laboratory (LSU)
Allows simultaneous SANS and Imaging experiments

P5: Beam characterization of Time-of-Flight Neutron Imaging instrument IMAT at ISIS after upgrade of the liquid H2 moderator

Sylvia Britto[a], Winfried Kockelmann[a], Robert Bewley[a], Tung-Lik Lee[a], Ranggi Ramadhan[a]

[a]STFC, Rutherford Appleton Laboratory, ISIS Facility, Chilton, OX110QX, UK

sylvia.britto@stfc.ac.uk

P6: Additive manufacturing of custom neutron shielding

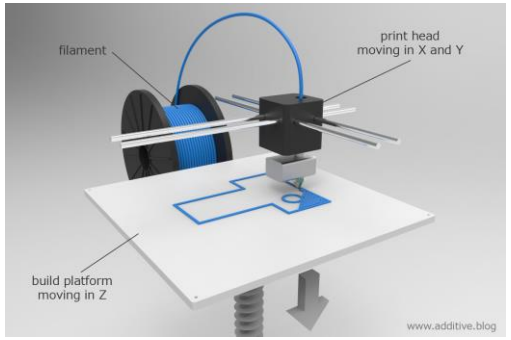
Simon Sebold[a], Tobias Neuwirth[a], Lucas Sommer[a], Michael Schulz[a]

[a]Heinz Maier-Leibnitz Zentrum, Research Neutron Source Heinz Maier-Leibnitz (FRM II), TUM, Munich, Germany

tobias.neuwirth@frm2.tum.de

3D printing of absorbing components

Scheme of a FFF 3D printer

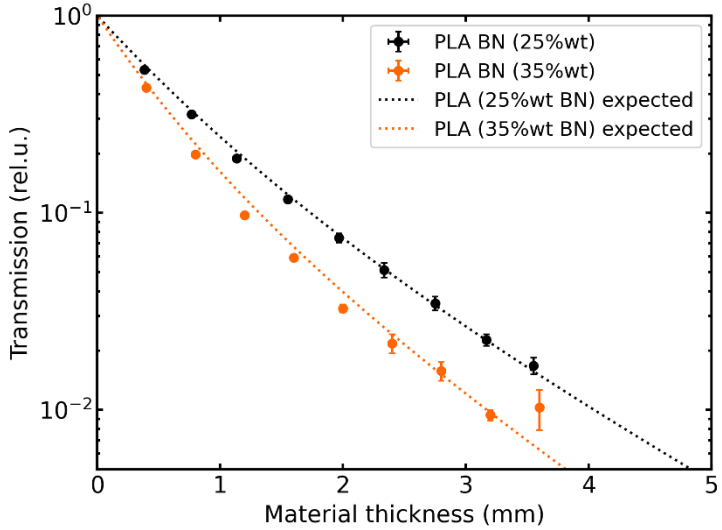


www.additive.blog

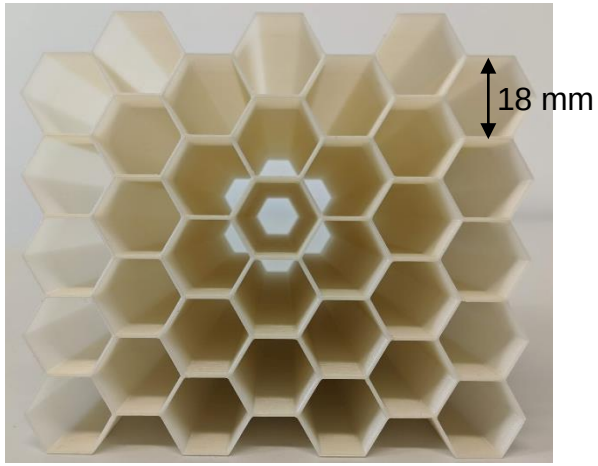
BN-PLA as a printable shielding material

- High neutron absorption
- Reasonably cheap
- Easy to print
- No post-processing necessary
- Reasonable mechanical stability
- Printing of intricate structures

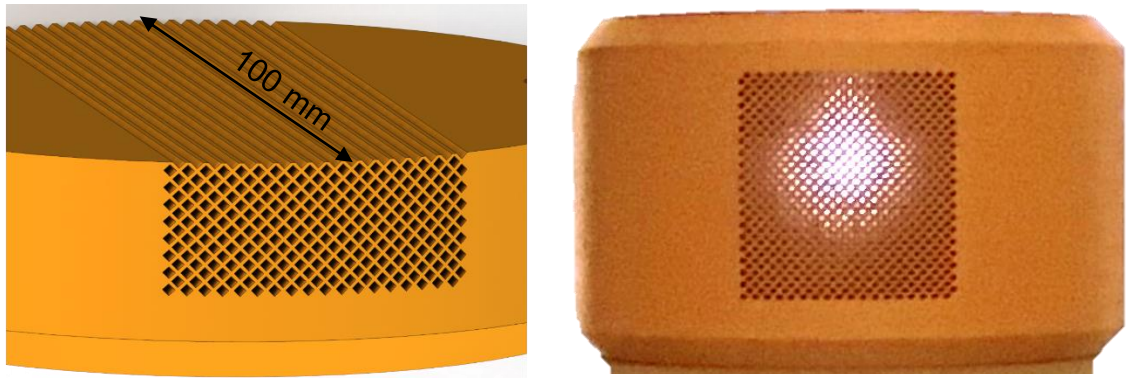
Absorption performance



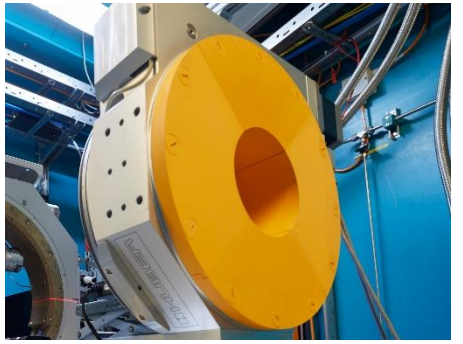
Prototype of a radial collimator for ERWIN



3D printed Fermi chopper with 684 1x1 mm² channels



Customized shielding

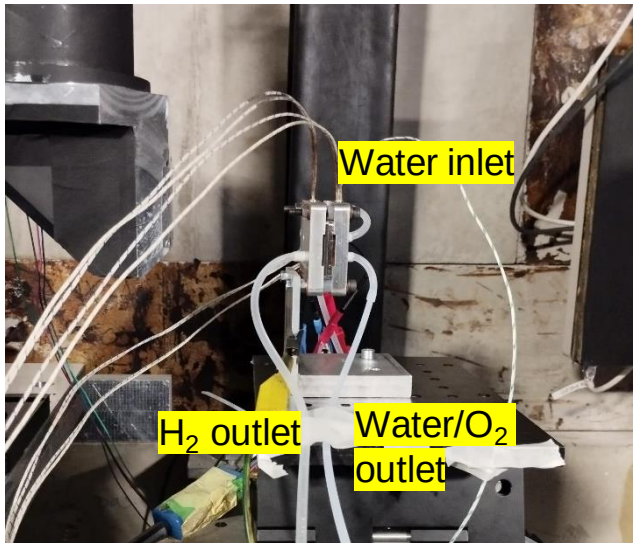


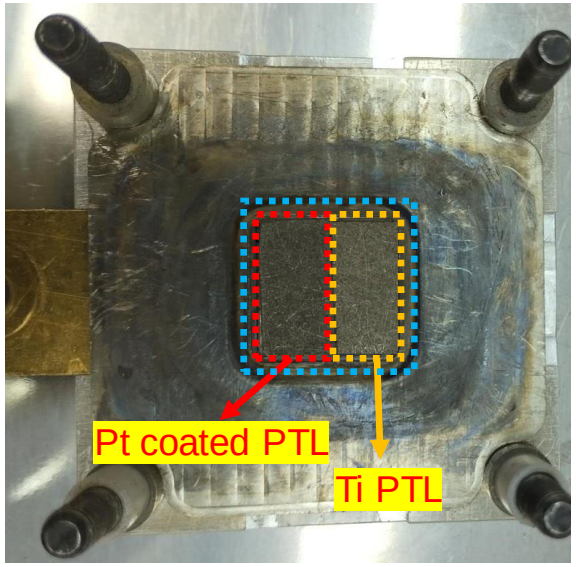
Bernhard Ludewig / FRM II, TUM

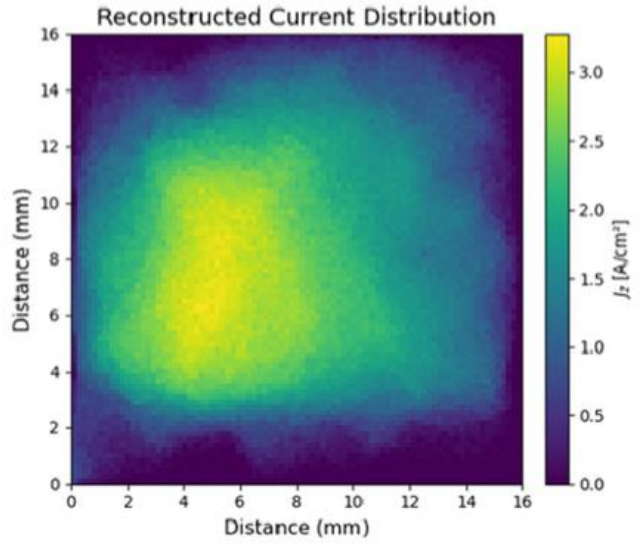
P7: In operando Mapping of Current Distribution and Oxygen by-products in PEM Electrolyzer using Neutron Imaging Methods

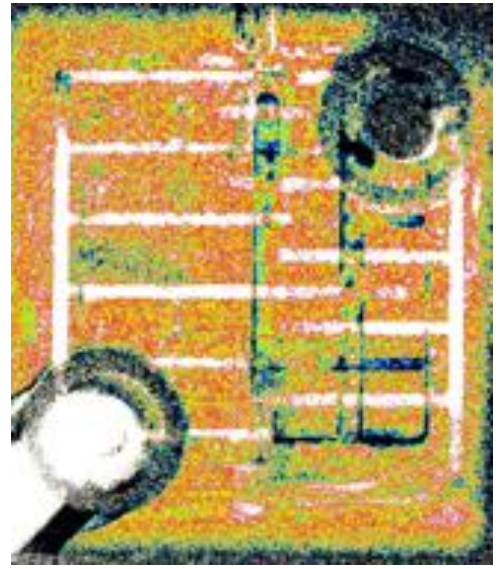
Vahid Karimi[a], Cedric Ovistgaard[b], Søren Schimdt[c], Alexander Wolfertz[d], Raghunandan Sharma[a], Salvatore De Angelis[b], Ebrahim Sadeghi[a], Takenao Shinohara[e], Tetsuya Kai[e], Joeseph Don Parker[f], Hirotoshi Hayashida[f], Alessandro Tengattini[g], Anna Fedrigo[g], Luise Theil Kuhn[b], Shuang Ma Andersen[a]

In operando Mapping of Current Distribution and Oxygen by-products in PEM Electrolyzer using Neutron Imaging Methods









Presenter: Vahid Karimi

NeuWave12

SDU

P8: Elastic and in-elastic grain-resolved deformation behaviour in oligocrystalline materials

Camilla Buhl Larsen[a], Stavros Samothrakitis[a], Robin Woracek[b], Efthymios Polatidis[a,c], Jan Capek[a], Manas V. Upadhyay[d], Michael Tovar[e], Søren Schmidt[b], Markus Strobl[a,f]

[a]Applied Materials Group, Laboratory for Neutron Scattering & Imaging, Paul Scherrer Institute, Switzerland, [b]European Spallation Source ERIC, P.O. Box 176, Lund 22100, Sweden, [c]Laboratory of Technology and Strength of Materials, Department of Mechanical Engineering and Aeronautics, University of Patras, Greece, [d]Laboratoire de Mécanique des Solides (LMS), École Polytechnique, Institut Polytechnique de Paris, CNRS UMR 7649, Route de Saclay, 91128 Palaiseau Cedex, France, [e]Helmholtz-Zentrum Berlin, Department of Structure and Dynamics of Energy Materials, Berlin, Germany, [f]Niels Bohr Institute, University of Copenhagen, 2100 Copenhagen, Denmark

camilla.larsen@psi.ch

P9: Neutron radiography liquids under pressurized gases

Jongmin Lee[a], Pavel Trtik[a], Ondřej Vopička[b], Jonatan Šercl[b]

[a]Laboratory for Neutron Scattering and Imaging, Paul Scherrer Institut, Villigen-PSI, Switzerland, [b]Dept. of Physical Chemistry, University of Chemistry and Technology, Prague, Czech Republic

jongmin.lee@psi.ch

P10: Stroboscopic Bragg edge imaging applied to Ni2MnGa

S. Kabra[a], W. Kockelmann[b], M. Gutmann[b], G. Burgess[b], A.S. Tremsin[c]

[a]Oak Ridge National Laboratory, TN37830, USA, [b]STFC-Rutherford Appleton Laboratory, ISIS Facility, Harwell, OX11 0QX, UK, [c]University of California at Berkeley, Space Science Laboratory, CA 94720 Berkeley, USA

winfried.kockelmann@stfc.ac.uk

P11

P11: Detectors for the ESS beamlines – status of the installation and preparations for cold-commissioning

Irina Stefanescu, Detector Scientist and WP Manager for Detector InKind

Detector Group, NSS, European Spallation Source ERIC, Partikelgatan 2 224 84 Lund, Sweden

irina.stefanescu@ess.eu

Who are we?

Science Directorate

→ **Neutron Scattering Systems (NSS) Division**

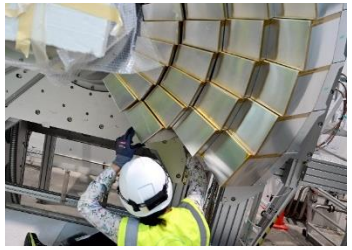
→ **Detector Group**

- 30 ESS staff and consultants
- detector scientists, engineers, technicians, project coordinators
- 9 women, 21 men
- 20 nationalities

What do we do?









Our core expertise:

- Detector R&D (gas detectors)
- detector readout
- firmware integration
- deliver $^{10}B_4C$ coatings for detectors

But now we do all these:

- electrical design of the detector racks (e-plan)
- design and manufacture detector cables
- test and install detectors built in-house and by our InKind partners
- install detectors racks

And will also do these

- cold- and hot-commission the detector systems
- support the instruments scientists to do science

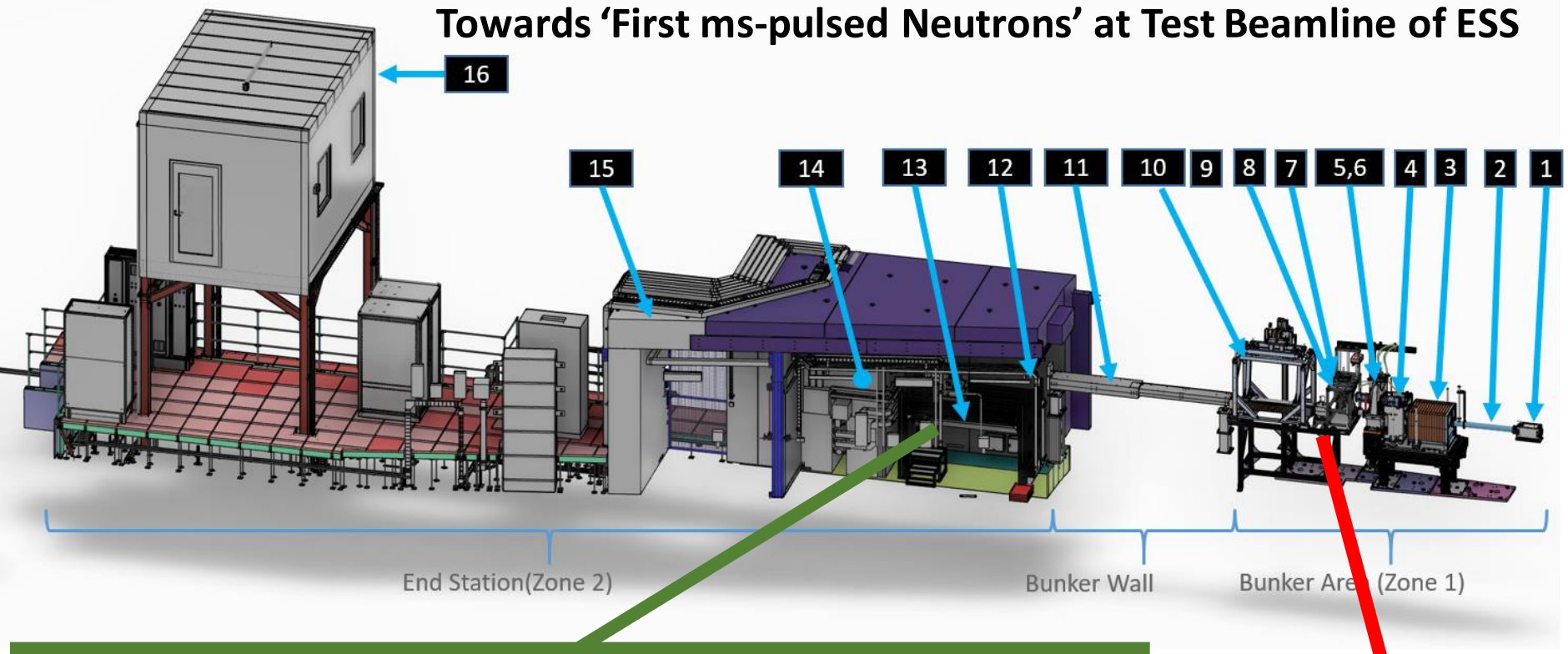
P12: ESS Testbeamline: Readiness to Beam-on-Target to characterise milliseconds pulsed neutron source

Thawatchart Chulapakorn[a,b], Robin Woracek[a], Mary-Ellen Donnelly[a], Irina Stefanescu[a], Douglas Di Julio[a], , Alejandro Tobias Quispe Mamani[a], Michaela Eriksson[a], Mikhail Feygensson[a,c]

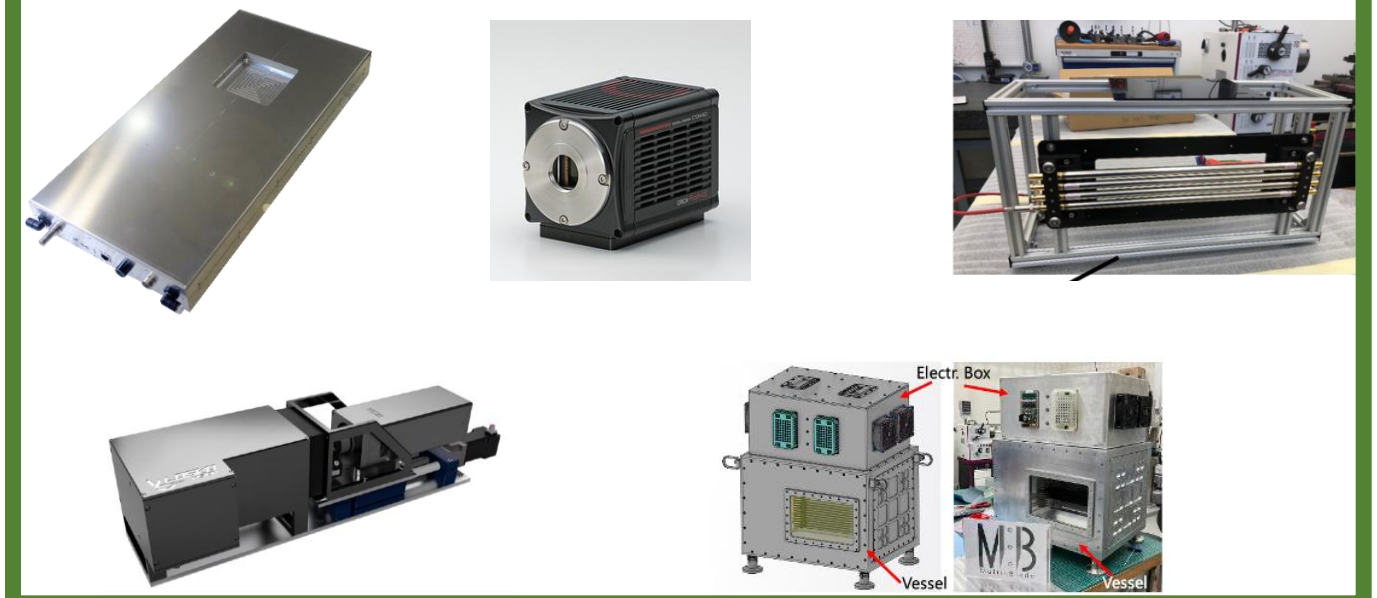
[a]European Spallation Source ESS ERIC, SE-221 00 Lund, Sweden, [b]Division of Solid Mechanics, Lund University, SE-221 00 Lund, Sweden, [c]Department of Materials Science and Engineering, Uppsala University

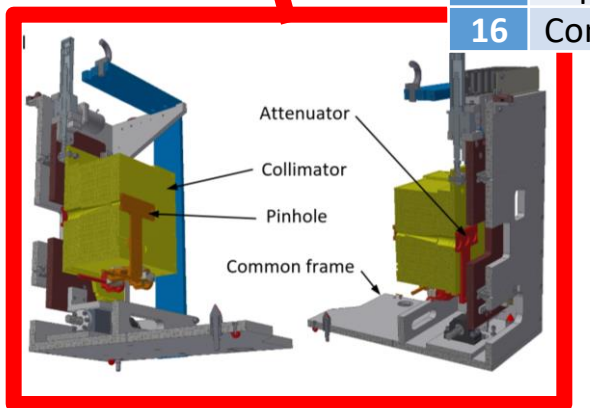
thawatchart.chulapakorn@ess.eu

Towards ‘First ms-pulsed Neutrons’ at Test Beamline of ESS



#	Component Name	Distance from target
1	BBGOA and Light Shutter	5.5 m – 6 m
2	Flight Tube 1	6 m – 7.4 m
3	Heavy Collimator	7.4 m – 8.2 m
4	Adjustable Collimator (Pinhole)	8.3 m – 8.5 m
5,6	Chopper, Flight Tube 2	8.5 – 8.7 m
7	In-bunker Beam Monitor	8.7 – 9.0 m
8	Filter stage	9.0 – 9.3 m
9	Final Collimator	9.3 – 9.5 m
10	Heavy Shutter	9.5 m – 11.3 m
11	Bunker Wall Feedthrough	11.5 m – 15 m
12	In-cave Beam Monitor	15.1 – 15.2 m
13	Detector Table	15.2 – 17.5 m
14	Beam Stop	17.5 m
15	Experimental Cave	15 – 21 m
16	Control Hutch	25 m





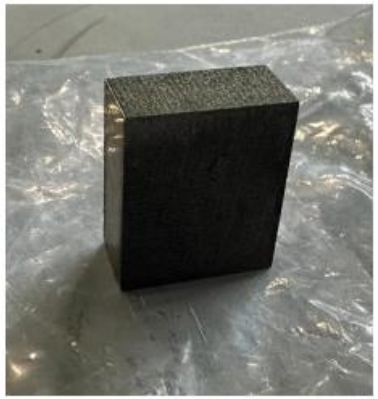
P13: Polarized neutron imaging at CARR and observation of trapped flux in superconductors

Siqin Meng[a], Lijie Hao[a], Hongliang Wang[a], Jianfei Qin[a], Yuqing Li[a], Xiaobai Ma[a], Dongfeng Chen[a]

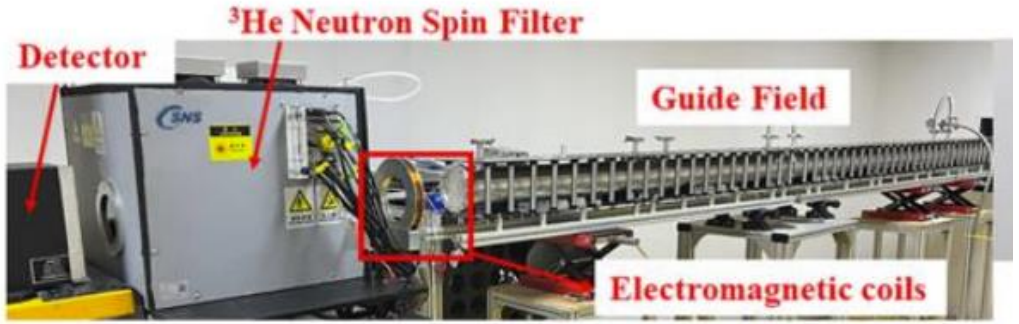
[a]Neutron scattering lab, China institute of atomic energy, Beijing, China

mengsq04@gmail.com

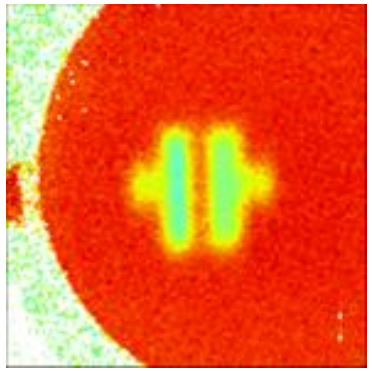
Polarized neutron imaging observation of pinned flux in superconducting sample at CARR



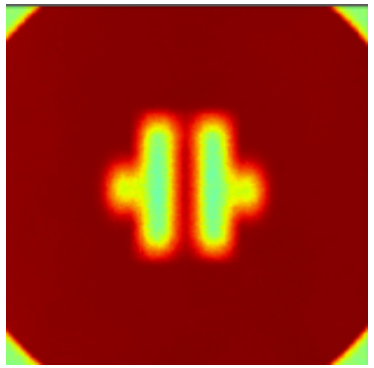
This simple Nb cube …



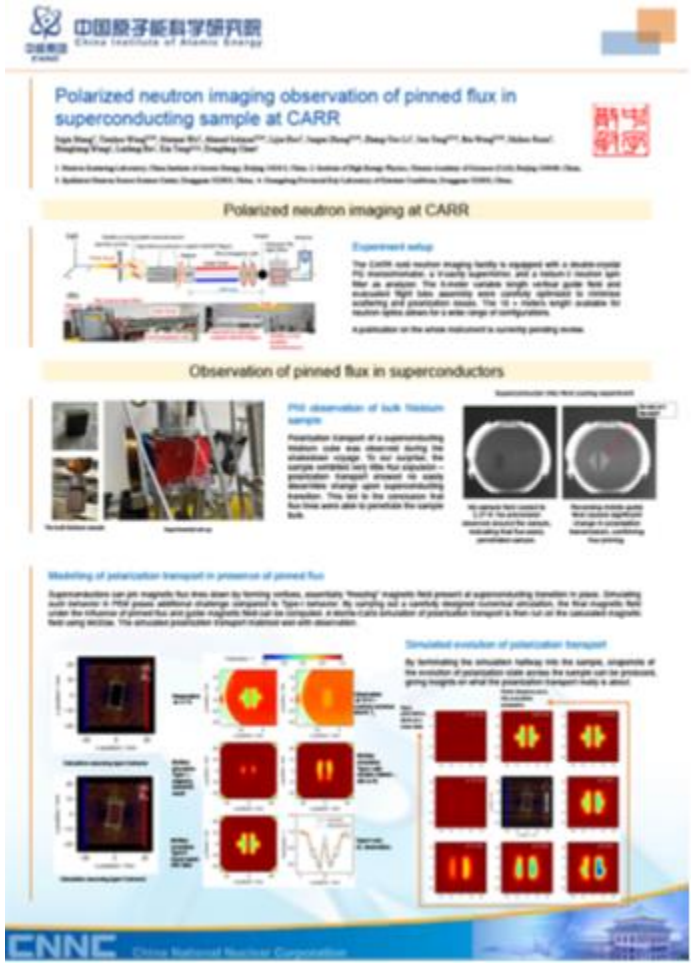
New PNI option at CARR!



…Led to this measurement



Which agrees pretty well with model!



Come find out more!

P14: Data reduction and Analysis at ODIN

Søren Schmidt[a],

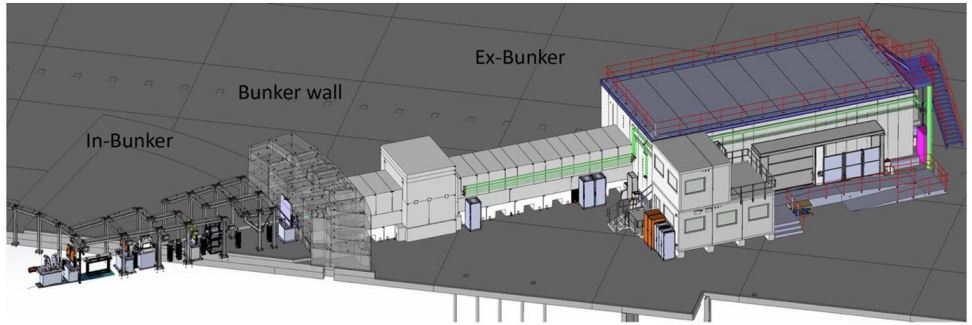
[a]European Spallation Source, DMSC, Denmark

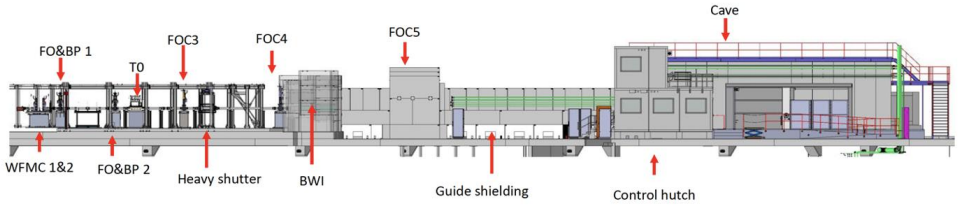
Soren.Schmidt@ess.eu

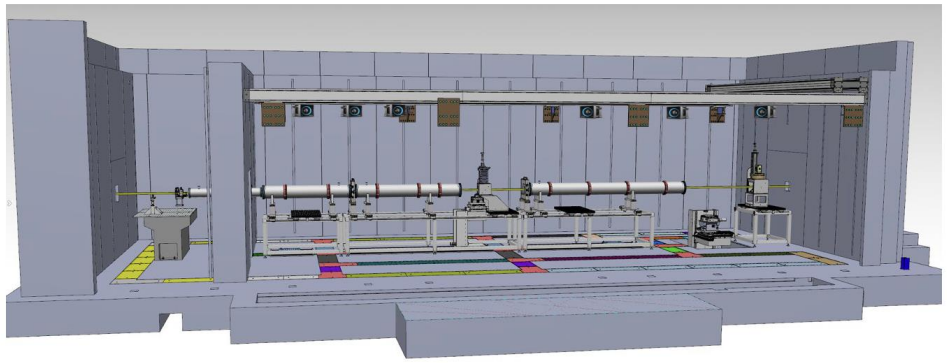
The poster will provide an overview of the planned data reduction and analysis at the ESS imaging instrument ODIN.

Poster nr 14: Data reduction and analysis at ODIN

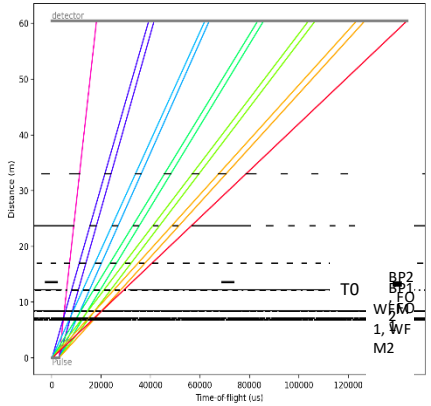
ODIN

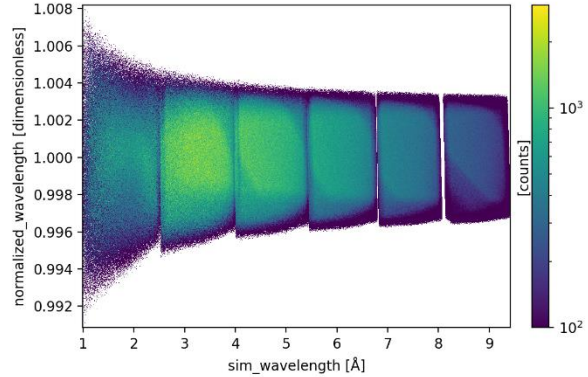






WFM





Examples on Tomography and Bragg edge